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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAMES NADEN  
and FIONA WILSON

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Appeal 2009-001493  
Application 10/814,897  
Technology Center 2600

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Decided: March 18, 2010

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Before ROBERT E. NAPPI, THOMAS S. HAHN,  
and, ELENI MANTIS-MERCADER *Administrative Patent Judges*.

HAHN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants invoke our review under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-40. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

## STATEMENT OF THE CASE

Appellants claim a communications system and method for connecting a base station and a new terminal. A base station communicates with terminals located in radiated beams, each beam having resources for supporting communications with the connected terminals. A control entity determines if a direct communication link using a first beam can be made between the base station and a new terminal. If a direct communication link cannot be made, the system provides relaying equipment to use resources of a second beam for a first communication link to the base station. A second communication link is then made between the relaying equipment and the new terminal.<sup>1</sup> Claim 1 is illustrative:

1. A control entity for a wireless communications system which comprises a plurality of base stations, each base station defining a plurality of beams which each have an amount of resources for supporting communication links with terminals located in the beams, and a relaying equipment, wherein the control entity is arranged to determine if a direct communication link can be supported between a new terminal and a base station using a first beam and, if the direct communication link cannot be supported, to invoke use of the relaying equipment to provide a first communication link between a base station and the relaying equipment using the resources of a second beam and a second communication link between the relaying equipment and the terminal whereby to provide a multi-hop path between the base station and the terminal.

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<sup>1</sup> *See generally* Spec. 7:15-8:28; Fig. 2.

The Examiner relies on the following prior art references to show unpatentability:<sup>2</sup>

Brody	US 4,670,899	June 2, 1987
Fette	US 5,612,948	Mar. 18, 1997
Lamoureux	US 6,330,458 B1	Dec. 11, 2001
Chen	US 2003/0195017 A1	Oct. 16, 2003
Wiedeman	US 6,775,251 B1	Aug. 10, 2004
Cheng	US 2005/0143084 A1	June 30, 2005
Lovinggood	US 6,934,511 B1	Aug. 23, 2005

1. The Examiner rejected claims 1-3, 6, 10-12, 15-25, 27, 31-33, and 36-40 under 35 U.S.C. § 102(b) as being anticipated by Fette (Ans. 3-6).
2. The Examiner rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Fette and Lamoureux (Ans. 7).
3. The Examiner rejected claims 5 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Fette and Chen (Ans. 7-8).
4. The Examiner rejected claims 7, 8, 28, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Fette and Brody (Ans. 8-9).
5. The Examiner rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Fette, Brody, and Cheng (Ans. 9-10).

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<sup>2</sup> Effective filing dates for these documents precede Appellants' earliest effective filing date and are not at issue.

6. The Examiner rejected claims 13 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Fette and Wiedeman (Ans. 10-11).
7. The Examiner rejected claims 14 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Fette and Lovinggood (Ans. 11).
8. The Examiner rejected claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Fette and Cheng (Ans. 8-9).

Rather than repeat the arguments of Appellants or of the Examiner, we refer to the Briefs and the Answer<sup>3</sup> for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments that Appellants could have made but did not make have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

*Appellants' Arguments*

*Anticipation*

Appellants group claims 1-3, 6, 10-12, 15-25, 27, 31-33, and 36-40, and separately argue independent claim 1 (App. Br. 6-8; Reply Br. 2-4). Accordingly, we select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants assert Fette fails to teach the claim 1 recited limitation for ““a first communication link between a base station and the relaying

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<sup>3</sup> We refer throughout this opinion to (1) the Appeal Brief filed Feb. 18, 2008, (2) the Examiner's Answer mailed May 16, 2008, and (3) the Reply Brief filed May 19, 2008.

equipment *using the resources of a second beam*” (App. Br. 6) (italics substituted for underlining).

## ISSUE

Does Fette expressly or inherently teach that if a direct communication link cannot be established between a base station and a new terminal using resources of a first beam that a first communication link can be established between the base station and relaying equipment using resources of a second beam, and a second link can be established between the relaying equipment and the new terminal as called for in representative claim 1?

## FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

1. Fette discloses a network and method for (i) establishing direct communication links between a base node 12 and subscriber nodes 16, or (ii) if a direct link is not feasible, for example, because of an obstruction to signal transmission 18, establishing an indirect communication link from the base node 12 using one or more repeating subscriber nodes 16 to communicate to a subscriber node 16 (Abstract; col. 3, ll. 7-20, 41-57; Fig. 1).
2. Fette’s network “utilize[s] spacial [sic; spatial] diversity obtained through diverse antenna beams projected in different directions to further reduce interference” (col. 3, ll. 62-64).

3. Fette discloses that subscriber nodes transmit connectivity reports to the base node with identities of those subscriber nodes that can receive direct base node signals (col. 4, ll. 23-32).
4. Fette's "repeating subscriber nodes . . . receive connectivity reports from other subscriber nodes . . . which may not be able to communicate directly with [the] base nodes" and the repeating subscriber nodes forward these connectivity reports to the base nodes (col. 4, ll. 35-42).
5. Fettee connectivity reports inform base nodes of the identities of those subscriber nodes that can receive direct communication links, and also identities of the other subscriber nodes that require routes through repeating subscriber nodes (col. 4, ll. 42-45).

## PRINCIPLES OF LAW

Analysis of claim rejections begins with a determination of claim scope. We determine claim scope not solely on the basis of claim language, but also on giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). See also *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) ("Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim.").

Under 35 U.S.C. § 102, it is necessary for claims to "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it." *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983). Both explicit and inherent reference teachings, which are questions of fact, may be relied upon for claim rejections under §§ 102 or 103. *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teaching of the applied prior art." *Ex Parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990).

## ANALYSIS

### *Anticipation*

#### *Claims 1-3, 6, 10-12, 15-25, 27, 31-33, and 36-40*

Based on the record, we conclude Fette anticipates representative claim 1 under § 102(b).

We agree with the Examiner's findings that Fette teaches a communications network of multiple base stations that use a plurality of beams to directly communicate with terminals located in the beams (Ans. 3; FF 1, 2). Further, we agree with the Examiner's finding that Fette discloses use of relaying equipment for establishing an indirect communication link if a direct communication link with a subscriber node cannot be supported (Ans. 3-4, FF 1 and 3-5). Appellants do not dispute these Examiner

findings, and acknowledge that “the base node of Fette can use multiple beams” (Reply Br. 2).

Appellants contest the rejection by contending that Fette fails to teach the claim 1 recited limitation for establishing “a first communication link between a base station and the relaying equipment *using the resources of a second beam*” (App. Br. 6) (italics substituted for underlining).

Fette, we find teaches use of an indirect communication link to communicate around a signal obstruction (FF 1), and that multiple beams can be projected in different directions from the base node to reduce interference (FF 2). Accordingly, we concur with the Examiner’s finding that Fette teaches use of an original beam for direct base station and terminal communication, and use of a second beam for indirect base station and terminal communication (Ans. 12, 13; *see* FF 1, 2).

Appellants assert that “[e]ven if it was held that Fette teaches use of a first beam for a direct communication link and use of a second beam for a communication link with a relaying equipment (which is denied), Fette fails to anticipate claim 1 for the reasons stated above” (Reply Br. 3).

Appellants’ referenced reasons are that: “The set of slots 48, and frequency bands 75, 77, in Fette are used as a common pool of resources. Each beam in Fette would not have ‘an amount of resources’ as required by claim 1 of the present invention” (*id.*).

Since we find Fette teaches use of a first beam for direct communication and a second beam for indirect communication (*see supra*), we turn to claim 1 for the scope of what is claimed for beam resources. The claimed limitations are “a plurality of beams which each have an amount of resources for supporting communication links . . . [and] a first

communication link . . . using the resources of a second beam.” No further limitation covering resources is recited. Appellants exclusively rely on the apparent plain meaning of the claimed limitations, and neither asserts specification disclosures nor other evidence to support arguments urging any different meaning for the recited resources. The Examiner finds that “giv[ing] the broadest reasonable interpretation of appellant’s [sic] claims, Fette clearly teach[es] the limitations” (Ans. 14). We find the Examiner’s position reasonable, because claim 1 covers a plurality of beams that are recited as each having “an amount of resources,” with the only other recited limitation being a second beam having resources for a first communication link.

Accordingly, we find that a reasonable broad interpretation for claim 1 at least encompasses both the recited first and second beams having resources for supporting direct and indirect communications. We do not find a limitation recited that identifies resources excluded from the first or second beam, i.e., beams having different resources. Based on the record, we find Fette teaches the disputed claimed subject matter of ““a first communication link between a base station and the relaying equipment *using the resources of a second beam*”” (App. Br. 6) (italics substituted for underlining).

For the foregoing reasons, we will sustain the rejection of representative claim 1. We also will sustain the rejection of independent claims 23, 39, and 40, which fall for similar reasons, and the respective dependent claims 2, 3, 6, 10-12, 15-22, 24, 25, 27, 31-33, and 36-38.

*Obviousness*

*Claims 4, 5, 7-9, 13, 14, 26, 28-30, 34, and 35*

Appellants group these claims, which are respectively dependent from base independent claims 1 or 23, and contend their collective patentability by solely relying on the arguments that were submitted for why the independent claims are patentable over Fette (App. Br. 8). For the same reasons stated *supra* for representative claim 1, we will sustain the Examiner's rejection of these claims.

**CONCLUSIONS**

Under § 102(b), Appellants have not shown the Examiner erred in rejecting claims 1-3, 6, 10-12, 15-25, 27, 31-33, and 36-40.

Appellants also have not shown under § 103(a) that the Examiner erred in rejecting claims 4, 5, 7-9, 13, 14, 26, 28-30, 34, and 35.

**DECISION**

The Examiner's decision rejecting claims 1-40 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

**AFFIRMED**

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